### CARDINAL COMPONENTS

# **Surface Mount UM-5**

Series CM5J

• Smaller than CM1J with the same characteristics

- SMD profile
- · Grounded case better for EMI

Part Numbering Example: CM5J Z - A1 B2 C2 50 - 7.0 D18 - 3

CM <sub>5</sub> J	Z	<b>A</b> 1*	<b>B2</b>	C <sub>2</sub>	50	7 <sub>:</sub> 0	D18	- 3
SERIES	ADDED FEATURES	<b>OPERATING TEMP.</b>	STABILITY	TOLERANCE	RESISTANCE	FREQUENCY	LOAD CAP.	OVERTONE
	BLANK = BULK PACK						D16,18,20,ETC.	
	Z = TAPE AND REEL	$A1 = -10^{\circ}C \sim +70^{\circ}C$	$B2 = \pm 50$	$C2 = \pm 50$	BELOW		DS = SERIES	-3: 3rd OT
		$A2 = -40^{\circ}C \sim +85^{\circ}C$	$B3 = \pm 30$	$C3 = \pm 30$				-5: 5th OT
		$A3 = -55^{\circ}C \sim +125^{\circ}C$	$B4 = \pm 10$	$C4 = \pm 10$				-7: 7th OT
								-BT: BT Cut

<sup>\*</sup>NOTE: The above ABC combinations cover basic specification options. We tailor our crystal specifications to meet customer requirements. Please contact our sales department if you don't see exactly what you need.

# **Specifications:**

Frequency Range:	10.000 ~ 175.000 MHz				
Operating Temperature	e: -10°C ~ + 70°C Standard				
	-40°C ~ + 85°C				
	-55°C ~ +125°C				
Frequency Stability:	± 100 ppm				
	± 50 ppm Standard				
	± 30 ppm				
	± 10 ppm				
Frequency Tolerance:	± 100 ppm				
(at 25°C)	± 50 ppm Standard				
	± 30 ppm				
	± 10 ppm				
Load Capacitance:	Standard 18 pF or series.				
	Please specify your required load.				

Resistance: Maximum resistance corresponds to frequency.

See chart below..

Standard: Mode: Fundamental, 3rd, 5th, or 7th Overtone

Shunt Capacitance: 7 pF Max

Aging: ± 5 ppm/year Drive Level: 1.0 mW Max

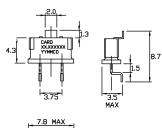
**Optional Features:** Tape and Reel (?? per Reel)

Vinyl Sleeves

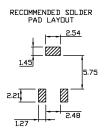
Note: Not all combinations of the above tolerances, stabilities, and temperature ranges are available. Consult the factory if your requirement is not standard.

# CM5J

## CM4J







## Resistance Chart: All resistances are maximum values.

EQUIVALENT SERIES RESISTANCE (ESR), MODE OF OPERATION (MODE), AND							
Frequency MHz	Equivalent Series Resistance (Ω)	Oscillation Mode / Cut					
7.000~15.999	60 Max	Fundamental					
16.000~40.000	50 Max	Fundamental					
30.000~90.000	80 Max	Third Overtone					
70.000~175.000	120 Max	Fifth Overtone					